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|-------------------------------|------------------------|---------------------|--|
| Notice of Allowability | Application No. | Applicant(s) | |
| | 09/529,217 | GUILLOT ET AL. | |
| | Examiner | Art Unit | |
| | Jehanne Souaya Sitton | 1634 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the request for RCE dated November 4, 2003.
2. ☒ The allowed claim(s) is/are 1-30.
3. ☐ The drawings filed on _____ are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413), Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Joseph Barrera on June 21, 2004.

The application has been amended as follows:

In the claims:

1. (Amended) A method of qualitative and quantitative analysis of microbial population(s) comprising:

providing a sample containing microorganisms,

contacting the microorganisms present in the sample with at least one specific probe to form a sample with a probe-target complex *in situ* hybridization in whole cells, wherein the specific probe recognizes a RNA target sequence,

contacting the sample with the probe target complex with a wash solution to remove excess specific probes or non-specific probes from the sample with the probe target complex thereby providing a washed sample,

adding a denaturing agent to the washed sample [extracting the hybridized] to extract the specific probes from the probe-target complex [in the contacted sample by adding a denaturing agent to denature the probe-target complex], and

detecting the extracted probes and measuring the amount thereof or their respective amounts to provide the qualitative and quantitative analysis of the microorganisms in the sample.

2. (Amended) A method according to claim 1, wherein said at least one specific probe is chosen among the group consisting of [NB 1000 (] SEQ ID [N°] NO: 1 [)] and SEQ ID NO: 2.

4. (Amended) A method according to claim 3, wherein said universal probe is chosen among the group consisting of [S Univ-1390] SEQ ID [N°] NO: 3 [)] and [S Bac 338 (] SEQ ID [N°] NO: 4 [)].

21. (Amended) A method according to claim 1, wherein said method is used in the automatic or feedback control of a microbiological process [such as methane fermentation of liquid manure, treatment of organic effluents, sewage treatment process such as treatment by activated sludge].

In claim 11, in the last line, please delete “;” (semicolon) after the recitation of ‘0.1M’ and insert --,-- (comma).

Reasons for Allowance

2. The following is an examiner's statement of reasons for allowance: The claims are drawn to a method qualitative and quantitative analysis of microbial population(s) comprising: providing a sample containing microorganisms, contacting the microorganisms present in the sample with at least one specific probe to form a sample with a probe-target complex *in situ* hybridization in whole cells, wherein the specific probe recognizes a RNA target sequence, contacting the sample with the probe target complex with a wash solution to remove excess specific probes or non-specific probes from the sample with the probe target complex thereby providing a washed sample, adding a denaturing agent to the washed sample to extract the specific probes from the probe-target complex, and detecting the extracted probes and measuring the amount thereof or their respective amounts to provide the qualitative and quantitative analysis of the microorganisms in the sample. The closest prior art is that of Manz et al and Mayrand. Manz et al teach a method of in situ hybridization analysis of microbial populations in wastewater treatment plants. Mayrand teaches in situ PCR with a probe to detect nucleic acid targets. The claims are allowable over the closest prior art because neither Manz et al nor Mayrand teach or fairly suggest a method wherein after the step of contacting cells with probes using in situ hybridization, a step of washing to form a washed sample follows, which is then followed by a step wherein a denaturing agent is added to the washed sample to extract the probes from the probe target complex and the extracted probes are detected.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue

fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

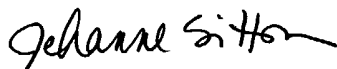
3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner Jehanne Sitton whose telephone number is (571) 272-0752. The examiner can normally be reached Monday-Thursday from 8:00 AM to 5:00 PM and on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Benzion, can be reached on (571) 272-0782. The fax phone number for this Group is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to (571) 272-0547.

Patent applicants with problems or questions regarding electronic images that can be viewed in the Patent Application Information Retrieval system (PAIR) can now contact the USPTO's Patent Electronic Business Center (Patent EBC) for assistance. Representatives are available to answer your questions daily from 6 am to midnight (EST). The toll free number is (866) 217-9197. When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also check PAIR to confirm that the problem has been corrected. The USPTO's Patent Electronic Business Center is a complete service center supporting all patent business on the Internet. The USPTO's PAIR system provides Internet-based access to patent application status and history information. It also enables applicants to view the scanned images of their own application file folder(s) as well as general patent information available to the public.

For all other customer support, please call the USPTO Call Center (UCC) at 800-786-9199.



Jehanne Sitton
Primary Examiner
Art Unit 1634

6/21/2004